WHAT IS CLAIMED IS:

1. A mold for molding a metallic product comprising a fixed mold section and a movable mold section defining a cavity, when the both are closed together, to be filled with molded metal, wherein

the fixed mold section is provided with heating means and the movable mold section is provided with cooling means, both of which means are controlled by temperature control means, respectively, so that the temperature variations in one cycle of the fixed and movable mold sections are individually controllable.

2. A mold for molding a metallic product as defined by claim 1, wherein the fixed mold section is disposed on the injection side of molten metal to be molded, and ejector pins for releasing a molded metallic product from the movable mold section are provided in the movable mold section.

3. A mold for molding a metallic product as defined by claim 1, wherein the temperature of the fixed mold section rises to a value in a range from 300 to 700°C, and the temperature of the movable mold section is controlled to a value in a range from a solidifying point, of the metal to be molded, to 0°C.

4. A method for molding a metallic product by filling the cavity, in the mold as defined by claim 1, with molten metal, wherein the method comprises the steps of:

(1) heating the fixed mold section by the heating means and cooling the movable mold section by the cooling means when the mold is open,

(2) closing the mold during the heating of the fixed mold section and the cooling of the movable mold section,

(3) heating the fixed mold section by the heating means and cooling the movable mold section by the cooling means even after the mold has been closed,

(4) injecting the molten metal into the cavity

when the temperature of the fixed mold section has reached the predetermined highest value and that of the movable mold section has reached the predetermined lowest value,

(5) continuing the cooling of the movable mold section and opening the mold when the mold temperature falls to a value at which the molded metallic product is releasable from the mold, and

(6) removing the molded product from the mold.